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US EPA RECORDS CENTER REGION 5



502523

December 1, 1976

*File - H.C.P.  
12/1/76*

Mr. Robert Scott  
Kent County Department  
of Public Works  
1500 Scribner, N.W.  
Grand Rapids, MI 49504

Dear Mr. Scott:

This will acknowledge receipt of the latest copy of the revised plans for the Plainfield Landfill and our review of same and discussions held on Monday, November 29, 1976 in reference thereto.

It appears at this time there are some significant problems that have not been clarified as per the stipulations of last year's license or of discussions staff has had with you.

The following have been developed for your consideration and action and should be addressed before any extensive expansion is carried on in addition to what you have already done on the site:

1. The County has continued to pump the dewatering wells after numerous requests have been made by staff to have the pumps shut down. The continued pumping of the upper aquifer will only delay the mandatory determination of stabilization of the piezometric surface or water table level of the upper aquifer. THE DISCHARGE OF REFUSE AT THIS SITE PRIOR TO THE STABILIZATION OF THE WATER TABLE AT A LEVEL 7 FEET BELOW THE BOTTOM OF ANY AND ALL TRASHES WILL BE CAUSE FOR LICENSE DENIAL OR REVOCATION.
2. The locations and length of the two original dewatering underdrains running north and south were developed after numerous conferences with the consultant geologist and the review of geological background data. On-site test borings and permeability tests were conducted and used for an extensive groundwater system in order to accurately locate the water table beneath the pit. There is no indication that we are not in accordance with authority approved for this project. The original dewatering plan from 2/28/76 and the revised plan dated 11/29/76 are attached and the /

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3. The plans shall show the exact location of the east-west interceptor and dewatering trench along with detailed design and said trench must be installed prior to the development of any trenches north of Cells 5 and 20. Further lowering of the upper aquifer and permanent stabilization of the water table resulting from the addition of the east-west interceptor trench must be complete prior to construction of any trenches north of Cells 5 and 20. Thus, it is suggested the construction of the east-west dewatering trench not be delayed.
4. The monitoring well locations and construction details for the initial project area (south of Cells 5 and 20) will be determined by the Department staff as referenced in the license when the effects of both north-south dewatering trenches have been established on the upper aquifer. The balance of the necessary monitoring well locations and construction will be determined after the east-west dewatering trench has been installed and its effects determined. This segmented approach may necessitate additional monitoring wells as data on water levels become available.
5. Mr. Scott, during a recent meeting, indicated verbally to staff that all trenches would be lined with PVC as detailed. Plans do not depict this nor did the most recent discussion confirm this position. All trenches will have a PVC liner unless a preschedule field visit is arranged to observe necessary test borings and staff approves the 20 feet of required natural clay in lieu of lining.
6. The County has not furnished requested data on structural stability of PVC liners from the manufacturer when installed on sidewalls with slopes steeper than 1 vertical and 3 horizontal, nor have we been apprised of the expertise of the liner installer. Unsatisfactory fulfillment of these conditions could result in a good deal of added expense to the County and a complete redesign of the trench system.
7. The natural clay or artificially placed clay base below the PVC liner must be at least 12" thick and must meet the qualifications as described in the license (stipulation #1). The base for the PVC liner must be leveled to prevent sharp edges that might puncture or place unequal stresses on the liner.
8. As-cut soil shall be substituted to areas where plastic or other type of materials have been used in trench and trench wall areas. A filter course of crushed limestone or gravel and 1/2" diameter filter stone to filter areas of infiltration. Filter stones are recommended as 1/2" diameter, 1/2" deep, 1/2" thick, and provide continuous and gradual transition upward in elevation.

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1. On inspection, it was the quality of gravel used over the underdrain is questionable as it is finer than the perforations in the pipe. It is suggested good quality stones be used with less visible fines.
10. Field inspection revealed galvanized pipe being used in the drain rather than plastic as indicated on the plans. Revised plans should show type and size of piping. As we are the plan review agency, we should be kept informed of any proposed deviation of the plans submitted preferably prior to design but mandatory prior to construction.
11. A cushion of sand shall be provided between the PVC liner and the base of all manholes. The PVC liner shall be installed below leachate collection manholes. The detail is not clear.
12. The detailed plans do not clearly indicate the location of the manholes to be installed in the downspurting underdrains. Under no conditions without prior design approval should any of these manholes pass through the PVC liner.
13. Revised plans do not indicate PVC liner for the leachate lagoon, nor does data submitted establish the vertical and horizontal protection that will be provided the ground or surface waters under the lagoon.
14. Certification of certain aspects of the project shall be made by an engineer not administratively involved in the project.
15. Details shall be submitted on all wells installed on the site including the recently installed groundwater observation well and the soil boring located south of trench one. These details should be included on the overall master plan of the facility. The wells which have been abandoned west of the property line should be so labeled.
16. Until the effects of the downspurting trenches have been established the County SWP shall provide weekly readings of all on-site groundwater observation wells in order to establish the stabilization of piezometric surfaces.

It is apparent at this time that all details described herein be clarified before further construction activities is carried on. Should the County SWP not follow the details as presented by this year's license or the conditions established herein, the Department will have no alternative but to deny the utilization of the area for waste disposal.

There is a critical need in the development of safe facilities as it relates to the overall protection of the ground and surface waters during the

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period that refuse is being deposited on the site and after the trenches have been filled. We certainly do not want to have to prevent this facility from opening but if changes are made without our approval that jeopardize the integrity of the operation or the plans as approved are not followed, the County leaves us no alternative. We would appreciate notification of any proposed changes so they can be cleared with staff before their design and certainly before they are included in the construction phase of the operation.

Very truly yours,

Fred B. Kellow, Chief  
Resource Recovery Division  
Environmental Protection Bureau

FBK:nc

cc: Jack Boerna  
Kent County Health Department  
Vern Shler